

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 28, 2005, 13:34:39 ; Search time 196 Seconds
(without alignments)
340.528 Million cell updates/sec

Title: US-10-659-782A-32
Perfect score: 616
Sequence: 1 MPSPGTVCSSLLGLMLWLDL.....PPSSRRRRSHQPCSPEL 116

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1825181 seqs, 575374646 residues

Total number of hits satisfying chosen parameters: 1825181

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Uniprot_02.*

1: uniprot_sprot.*

2: uniprot_trembl.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	198	32.1	91	2	Q86YP8
2	198	32.1	117	1	GHRL_HUMAN
3	194	31.5	117	2	Q6UDE7
4	194	31.5	117	2	AAQ74381
5	194	31.5	117	2	AAQ74837
6	166.5	27.0	117	2	Q8CH53
7	164.5	26.7	117	1	GHRL_MOUSE
8	162	26.3	86	2	Q811T4
9	162	26.3	116	2	Q86310
10	162	26.3	117	1	GHRL_CANFA
11	162	26.3	117	2	BAC75929
12	159.5	25.9	117	1	GHRL_RAT
13	157	25.5	78	2	Q7TSD1
14	150.5	24.4	118	1	GHRL_PIG
15	148	24.0	116	1	GHRL_BOVIN
16	147	23.9	54	2	Q6SLG1
17	147	23.9	54	2	AAQ67351
18	146	23.7	54	2	Q6SLF6
19	146	23.7	54	2	AAQ67355
20	145	23.5	52	2	Q6SLF9
21	145	23.5	52	2	AAQ67361
22	145	23.5	54	2	Q6SLF2
23	145	23.5	54	2	Q6SLF8
24	145	23.5	54	2	AAQ67353
25	145	23.5	54	2	AAQ67359
26	142	23.1	54	2	Q6SLF4
27	142	23.1	54	2	AAQ67357
28	135.5	22.0	65	2	Q6TGF0
29	135.5	22.0	65	2	AAQ76222
30	133	21.6	54	2	Q6SLG3
31	133	21.6	54	2	AAQ67349

32	130	21.1	54	2	Q6SPC2
33	130	21.1	54	2	AAQ10495
34	122.5	19.9	54	2	Q6SLG5
35	122.5	19.9	54	2	Q6SLG7
36	122.5	19.9	54	2	AAQ67345
37	122.5	19.9	54	2	AAQ67347
38	118	19.2	97	2	Q863C6
39	101	16.4	35	2	Q6SPC3
40	101	16.4	35	2	AAQ10485
41	98.5	16.0	116	2	Q6VMJ7
42	98.5	16.0	116	2	AAQ56122
43	95	15.4	114	2	Q6F4B3
44	95	15.4	124	2	Q6F4B3
45	93	15.1	116	2	Q6VMJ5

Q6SPC2 bison bison
AAQ10495 bison bis
Q6SLG5 kogia brevi
Q6SLG7 bos taurus
AAQ67345 bos tauru
AAQ67347 kogia bre
Q863C6 ovis aries
Q6SPC3 antilocapra
AAQ10485 antilocap
Q6VMJ7 anser sp.
AAQ56122 anser sp.
Q6F4B4 trachemys s
Q6F4B3 trachemys s
Q6VMJ5 dromaius no

ALIGNMENTS

RESULT 1

Q86YP8 PRELIMINARY; PRT; 91 AA.
AC Q86YP8;
DT 01-JUN-2003 (TREMBlrel. 24, Created)
DT 01-JUN-2003 (TREMBlrel. 24, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
DE Exon 3-deleted preproghrel in variant.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
RN NCBI_TaxID=9606;
RX [1]
RP SEQUENCE FROM N.A.
RA Jeffery P.L., Herington A.C., Chopin L.K.;
RL Submitted (NOV-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY184207; AAO27351.1; -
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR GO; GO:0050791; P:regulation of physiological process; IEA.
DR InterPro; IPR006738; motifin_ghrel.
DR InterPro; IPR005441; Preproghrel.
DR Pfam; PF04644; Motilin_ghrel; 1.
DR PRINTS; PR01624; GHRELIN.
SQ SEQUENCE 91 AA; 9972 MW; E7E532D32A3F8609 CRC64;

Query Match 32.1%; Score 198; DB 2; Length 91;
Best Local Similarity 88.6%; Pred. NO. 1.2e-12;
Matches 39; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

Qy 1 MPSPGTVCSSLLGLMLWLDLAGSSFLSPHQVQVRPHKAP 44
Db 1 MPSPGTVCSSLLGLMLWLDLAGSSFLSPHQVQVRPHKAP 44

RESULT 2

GHRL_HUMAN STANDARD; PRT; 117 AA.
AC Q9UBU3; Q8TAT9; Q9H3R3;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 01-OCT-2004 (Rel. 45, Last annotation update)
DE Chrelin precursor (Growth hormone secretagogue) (Growth hormone releasing peptide) (Motilin-related peptide) (M46 protein) (UNQ524/PRO1066).
DE (UNQ524/PRO1066).
GN Name=GHRL; Synonyms=MTLRP;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
RN NCBI_TaxID=9606;
RX [1]
RP SEQUENCE FROM N.A. (ISOFORM 1), AND ACYLATION OF SER-26.
RX MEDLINE=20067959; PubMed=10604470; DOI=10.1038/45230;
RA Kojima M., Hosoda H., Date Y., Nakazato M., Matsuo H., Kangawa K.;

RT "Ghrelin is a growth-hormone-releasing acylated peptide from stomach.";
 RL Nature 402:656-660(1999).
 RN (2)

RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
 RA Kojima M.;

RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 RN (3)

RP SEQUENCE FROM N.A. (ISOFORM 1).
 RC TISSUE=Stomach;

RA Tomasetto C., Karam S.M., Rio M.-C.;

RL "Identification of a novel gastric protein m46.";
 RT Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.

RN (4)
 RP SEQUENCE FROM N.A. (ISOFORM 1).
 RC TISSUE=Stomach;

RA Wajraich M.P., Ten I.S., Gertner J.M., Leibel R.L.;

RL "Genomic organization of the human Ghrelin gene.";
 RN (5)

RP SEQUENCE FROM N.A. (ISOFORM 1).
 RX MEDLINE=22987296; PubMed=12975309; DOI=10.1101/gr.1293003;

RA Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J.,

RA Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P.,

RA Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S.,

RA Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J.,

RA Lewis L., Liao D., Mark M., Robbie E., Sanchez C., Schoenfeld J.,

RA Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A.,

RA Vandlen K., Watanabe C., Wleand D., Woods K., Xie M.-H., Yansura D.,

RA Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,

RA Godowski P., Gray A.;

RT "The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment.";
 RL Genome Res. 13:2265-2270(2003).
 RN (16)

RP SEQUENCE FROM N.A. (ISOFORM 1).
 RC TISSUE=Blood;

RA MEDLINE=2388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heish F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Udell T.B., Toshiyuki S., Carninci P., Prange C.,

RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Fahey J., Helton E., Kettaman M., Madan A., Rodriguez S., Sanchez A.,

RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,

RA Butlerfield Y.S.N., Krzywinski M.I., Skalska U., Smallos D.E.,

RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;

RT "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN (17)

RP SEQUENCE OF 24-33.
 RC TISSUE=Stomach;

RA MEDLINE=20389976; PubMed=10930375;

RA Tomasetto C., Karam S.M., Ribieras S., Masson R., Lefebvre O.,

RA Staub A., Alexander G., Chenard M.-P., Rio M.-C.;

RT "Identification and characterization of a novel gastric peptide hormone: the motilin-related peptide.";
 RL Gastroenterology 119:395-405(2000).
 RN (18)

RN (9)
 RP REVIEW.

RX MEDLINE=21203998; PubMed=11306336; DOI=10.1016/S1043-2760(00)00362-3;

RA Kojima M., Hosoda H., Matsuo H., Kangawa K.;

RT "Ghrelin: discovery of the natural endogenous ligand for the growth hormone secretagogue receptor.";

RL Trends Endocrinol. Metab. 12:118-122(2001).

CC -!- FUNCTION: Specific ligand for the growth hormone secretagogue receptor type 1 (GHSR) inducing the release of growth hormone from the pituitary. Has an appetite-stimulating effect, induces adiposity and stimulates gastric acid secretion. Involved in growth regulation.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- ALTERNATIVE PRODUCTS:

CC Event-Alternative splicing; Named isoforms=2;

CC Name=1; Synonyms=Ghrelin;

CC IsoId=Q9UBU3-1; Sequence=Displayed;

CC Name=2; Synonyms=del-Gln14-ghrelin;

CC IsoId=Q9UBU3-2; Sequence=VSP 003245;

CC -!- PTM: O-n-octanoylation is essential for activity.

CC -!- SIMILARITY: Belongs to the motilin family.

CC -!- DATABASE: NAME=Atlas Genet. Cytogenet. Oncol. Haematol.;

CC WWW="http://www.infobiogen.fr/services/chronocancer/Genes/GhrelinD327.html".

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CC EMBL; AB029434; BAA83371.1; -

DR EMBL; AB035700; BAB19045.1; -

DR EMBL; AJ252278; CAB65733.1; -

DR EMBL; AF296558; AAG10300.1; -

DR EMBL; AY359053; AAQ89412.1; -

DR EMBL; BC025791; AAH25791.1; -

DR FIRM; A59316; A59316.

DR GO; GO:0005615; C:extracellular space; TAS.

DR GO; GO:0005625; C:soluble fraction; TAS.

DR GO; GO:0005131; F:growth hormone receptor binding; TAS.

DR GO; GO:0007267; P:cell-cell signaling; TAS.

DR GO; GO:0007186; P:G-protein coupled receptor protein signaling. .; TAS.

DR InterPro; IPR006737; motilin_assoc.

DR InterPro; IPR006738; motilin_ghrelin.

DR InterPro; IPR005441; Preproghrelin.

DR Pfam; PF04643; Motilin_assoc; 1.

DR Pfam; PF04644; Motilin_ghrelin; 1.

DR PRINTS; PR01624; GHRELIN.

DR ProDom; PD332162; Preproghrelin; 1.

KW Alternative splicing; Cleavage on pair of basic residues;

SW Direct protein sequencing; Hormone; Lipoprotein; Signal.

FT SIGNAL 1 23 Ghrelin.

FT PEPTIDE 24 51 Removed in mature form.

FT PROPEP 52 117 O-octanoyl serine.

FT LIPID 26 26 Missing (in isoform 2).

FT VARSPLIC 37 37 /FTID=VSP_003245.

FT CONFLICT 72 72 L -> M (in Ref. 6).

SQ SEQUENCE 117 AA; 12911 MW; 39C0572BECAC2755 CRC64;

Query Match 32.1%; Score 198; DB 1; Length 117;

Best Local Similarity 88.8%; Pred. No. 1.7e-12;

Matches 39; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 MPSPGVCSLLILGLMLDLAMAGSSFLSPSHQVQVRPPHAP 44

DB 1 MPSPGVCSLLILGLMLDLAMAGSSFLSPSHQVQVRPPHAP 44

RESULT 3

RESULT 5
 AAQ74837 PRELIMINARY; PRT; 117 AA.
 ID AAQ74837; AC AAQ74837;
 DT 23-APR-2004 (TEMBLrel. 27, Created)
 DT 23-APR-2004 (TEMBLrel. 27, Last sequence update)
 DT 23-APR-2004 (TEMBLrel. 27, Last annotation update)
 DE Ghrelin.
 GN GHRL.
 OS Macaca mulatta (Rhesus macaque).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 OC Cercopithecinae; Macaca.
 OX NCBI_TaxID=9544;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX PubMed=14736731;
 RA Angeloni S.V., Glynn N., Ambrosini G., Garant M.J., Dee Higley J.,
 RA Suomi S., Hansen B.C.;
 RT "Characterization of the rhesus monkey ghrelin gene and levels
 RT influencing ghrelin gene expression and fasting plasma levels";
 RL Endocrinology 145:2197-2205(2004).
 DR EMBL; AY372274; AAQ74837.1; -.
 SQ SEQUENCE 117 AA; 12913 MW; 1B634AC5E1F19FF CRC64;
 Query Match 31.5%; Score 194; DB 2; Length 117;
 Best Local Similarity 86.4%; Pred. No. 4.3e-12;
 Matches 38; Conservative 0; Mismatches 6; Indels 0; Gaps 0;
 Qy 1 MPSPGTVCSLLLLGMLWLDLDMAGSSFLSPHQRVQVRPPHKAP 44
 |||||
 Db 1 MPSPGTVCSLLLLGMLWLDLDMAGSSFLSPHQRVQVRPPHKAP 44
 |||||
 RESULT 6
 Q8CH53 PRELIMINARY; PRT; 117 AA.
 ID Q8CH53; AC Q8CH53;
 DT 01-MAR-2003 (TEMBLrel. 23, Created)
 DT 01-MAR-2003 (TEMBLrel. 23, Last sequence update)
 DT 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
 DE Ghrelin preproprotein.
 OS Meriones unguiculatus (Mongolian jird) (Mongolian gerbil).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Gerbillinae;
 OC Meriones.
 OX NCBI_TaxID=10047;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Suzuki H., Ota T., Masaoka T., Miyazawa M., Amagai M., Nishikawa T.,
 RA Ishii H.;
 RL Submitted (NOV-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF442491; AAC06965.1; -.
 DR GO; GO:0005576; C:extracellular; IEA.
 DR GO; GO:0016508; F:growth hormone-releasing hormone activity; IEA.
 DR GO; GO:0050791; P:regulation of physiological process; IEA.
 DR InterPro; IPR006737; Motilin_assoc.
 DR InterPro; IPR006738; Motilin_ghrelin.
 DR InterPro; IPR005441; Preproghrelin.
 DR Pfam; PF04643; Motilin_assoc; 1.
 DR Pfam; PF04644; Motilin_ghrelin; 1.
 DR PRINTS; PR01624; GHRELIN.
 DR ProDom; PD332162; Preproghrelin; 1.
 SQ SEQUENCE 117 AA; 13035 MW; 27657687FC026A74 CRC64;
 Query Match 27.0%; Score 166.5; DB 2; Length 117;
 Best Local Similarity 41.0%; Pred. No. 2.9e-09;
 Matches 43; Conservative 8; Mismatches 31; Indels 23; Gaps 2;
 Qy 1 MPSPGTVCSLLLLGMLWLDLDMAGSSFLSPHQRVQVRPPHKAPVVPALPLSNQLCDE 60
 |||||

Db 1 MMSSTICSLLLGLVWMDVAMAGSFLSPHQKQKESKXP-----PAKLQPRALE 54

QY 61 QQRH-----WASVFSQSTKDSGLTSGRTWG 88

Db 55 GWLHPDGRGAEGADELEIRFNAPFDVGIKLSGAQYQQHGRALG 99

RESULT 7

GHRL_MOUSE

ID GHRL_MOUSE STANDARD; PRT; 117 AA.

AC Q9EQX0; Q9WU21;

DT 28-FEB-2003 (Rel. 41, Created)

DT 28-FEB-2003 (Rel. 41, Last sequence update)

DT 05-JUL-2004 (Rel. 44, Last annotation update)

DE Ghrelin precursor (Growth hormone secretagogue) (Growth hormone releasing peptide) (Motilin-related peptide) (M46 protein).

GN Name=Ghrl; Synonyms=MtLrp;

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI_TaxID=10090;

RN [1]

RN SEQUENCE FROM N.A. (ISOFORMS 1 AND 2), AND SEQUENCE OF 24-30.

RN TISSUE=Stomach;

RX MEDLINE=20389976; PubMed=10930375;

RA Tomasetto C., Karam S.M., Ribieras S., Masson R., Lefebvre O., Staub A., Alexander G., Chenard M.-P., Rio M.-C.;

RT "Identification and characterization of a novel gastric peptide hormone: the motilin-related peptide.";

RL Gastroenterology 119:395-405(2000).

RN [2]

RN SEQUENCE FROM N.A. (ISOFORM 1).

RA Kojima M.;

RT "Mouse mRNA for preproghrelin.";

RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.

RN [3]

RN SEQUENCE FROM N.A. (ISOFORM 1).

RA Tanaka M., Hayashida Y., Iguchi T., Nakao N., Nakai N., Nakashima K.;

RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.

RN [4]

RN SEQUENCE FROM N.A. (ISOFORM 1).

RC STRAIN=C57BL/6J; TISSUE=Stomach;

RX MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;

RA Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S., Nikaido I., Osato N., Saito R., Suzuki H., Yananaka I., Kiyosawa H., Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T., Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J., Schriml L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W., Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S., Dalla E., Dragani T.A., Fletcher C.F., Forrest A., Frazer K.S., Gaasterland T., Gariboldi M., Gissi C., Godzik A., Gough J., Grimmond S., Gusninch S., Hirokawa N., Jackson I.J., Jarvis E.D., Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L., Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A., Maglott D.R., Maltais L., Marchionni L., McKenzie L., Miki H., Nagashima T., Numata K., Okido T., Pavan W.J., Pertea G., Petrosky N., Pillai R., Pontius J.U., Qi D., Ramachandran S., Ravasi T., Reed J.C., Reed D.J., Reid J., Ring B.Z., Ringwald M., Sanderlin A., Schneider C., Sempie C.A., Setou M., Shimada K., Sultana R., Takenaka Y., Taylor M.S., Teasdale R.D., Tomita M., Verardo R., Wagner L., Wahlstedt C., Wang Y., Watanabe Y., Wells C., Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I., Yang L., Yuan Z., Zavolan M., Zhu Y., Zimmer A., Carninci P., Hayatsu N., Hirazane-Kishikawa T., Kono H., Nakamura M., Sakazume N., Sato K., Shiraki T., Waki K., Kawai J., Aizawa K., Arakawa T., Fukuda S., Hara A., Hashizume W., Imotani K., Ishii Y., Itoh M., Kagawa I., Miyazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa A., Yasunishi A., Yoshino M., Waterston R., Lander E.S., Rogers J., Birney E., Hayashizaki Y.;

RT "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs.";

RL Nature 420:563-573(2002).

RN [5]

RP MEDLINE=21203998; PubMed=11306336; DOI=10.1016/S1043-2760(00)00362-3;

RX Kojima M., Hosoda H., Matsuo H., Kangawa K.;

RT "Ghrelin: discovery of the natural endogenous ligand for the growth hormone secretagogue receptor.";

RL Trends Endocrinol. Metab. 12:118-122(2001).

CC -!- FUNCTION: Specific ligand for the growth hormone secretagogue receptor type 1 (GHSR) inducing the release of growth hormone from the pituitary. Has an appetite-stimulating effect, induces adiposity and stimulates gastric acid secretion. Involved in growth regulation.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- ALTERNATIVE PRODUCTS:

CC Event=Alternative splicing; Named isoforms=2;

CC Name=1; Synonyms=Ghrel; Sequence=Displayed;

CC IsoId=Q9EQX0-1; Sequence=del-Gln14-ghrelin;

CC Name=2; Synonyms=del-Gln14-ghrelin; Sequence=VSP_003246;

CC -!- TISSUE SPECIFICITY: Mainly expressed in the gastrointestinal tract with higher levels in the stomach, medium levels in the duodenum, jejunum, ileum and colon. Low expression in the testis and brain.

CC Not detected in the salivary gland, pancreas, liver and lung.

CC -!- PTM: O-n-octanoylation is essential for activity (By similarity).

CC -!- SIMILARITY: Belongs to the motilin family.

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DR EMBL; AJ243503; CAB46500.1; -;

DR EMBL; AB035701; BAB19046.1; -;

DR EMBL; AB060078; BAB69857.1; -;

DR EMBL; AK008658; BAB25814.1; -;

DR EMBL; AK008860; BAB25934.1; -;

DR MGD; MGI:1930008; Ghrl

DR GO; GO:0005737; Cytoplasm; IDA.

DR GO; GO:0005576; Extracellular; IDA.

DR InterPro; IPR006737; motilin assoc.

DR InterPro; IPR006738; motilin ghrelin.

DR InterPro; IPR005441; Preproghrelin.

DR Pfam; PF04643; Motilin assoc. 1.

DR Pfam; PF04644; Motilin ghrelin; 1.

DR PRINTS; PRO1624; GHRELIN.

DR ProDom; PD32162; Preproghrelin; 1.

KW Alternative splicing; Cleavage on pair of basic residues;

KW Direct protein sequencing; Hormone; Lipoprotein; Signal.

FT SIGNAL 1 23 Ghrelin.

FT PEPTIDE 24 51 Removed in mature form (By similarity).

FT PROPEP 52 117 O-octanoyl serine (By similarity).

FT LIPID 26 26 Missing (in isoform 2).

FT VARSPLIC 37 37 /FTID=VSP_003246.

FT SEQUENCE 117 AA; 13207 MW; EACB49D2E3CA7203 CRC64;

Query Match 26.7%; Score 164.5; DB 1; Length 117;

Best Local Similarity 41.0%; Pred. No. 4.7e-09;

Matches 43; Conservative 7; Mismatches 32; Indels 23; Gaps 2;

QY 1 MSPGTVCSLLGLMLDLAMAGSFLSPHQKQKESKXP-----PAKLQPRALE 60

Db 1 MLSGGTICSLLLSLMLMDVAMAGSFLSPHQKQKESKXP-----PAKLQPRALE 54

QY 61 QQRH-----WASVFSQSTKDSGLTSGRTWG 88

Db 55 GWLHPDGRGAEGADELEIRFNAPFDVGIKLSGAQYQQHGRALG 99

RESULT 8

Q81174

ID Q811T4 PRELIMINARY; PRT; 86 AA.
AC Q811T4;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Exon 4-deleted preproghrelin variant.
DE Name=Ghrl;
GN Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN=Swiss;
RC Jeffrey P.L., Herington A.C., Chopin L.K.;
RL Submitted (NOV-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL: AY179430; AAC27350.1; -
DR MGD, MGI:12930008; Ghrl.
DR GO: GO:0005737; C:cytoplasm; IDA.
DR GO: GO:0005576; C:extracellular; IDA.
DR InterPro: IPR006738; motilin_ghrelin.
DR InterPro: IPR005441; Preproghrelin.
DR Pfam: PF04644; Motilin_ghrelin; 1.
DR PRINTS: PR01624; GHRELIN.
SQ SEQUENCE 86 AA; 9758 MW; B913858874770512 CRC64;
Query Match 26.3%; Score 162; DB 2; Length 86;
Best Local Similarity 70.5%; Pred. No. 6e-09;
Matches 31; Conservative 4; Mismatches 9; Indels 0; Gaps 0;
QY 1 MPSPGTVCSSLLGLMGLDLAMAGSSFLSPHQRVQVRPPHKA
DB 1 MLSSGTTCSLLLSMLMMDMAMAGSSFLSPHQRVQVRPPHKA
RESULT 9
Q863L0 PRELIMINARY; PRT; 116 AA.
AC Q863L0;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Preproghrelin precursor.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Caprinae; Ovis
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Stomach;
RA Doi K., Kojima M., Hosoda H., Kaiya H., Matsuo H., Kangawa K.;
RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL: AB060699; BAC75928.1; -
DR GO: GO:0005576; C:extracellular; IEA.
DR GO: GO:0016608; F:growth hormone-releasing hormone activity; IEA.
DR GO: GO:0050791; P:regulation of physiological process; IEA.
DR InterPro: IPR006737; motilin_assoc
DR InterPro: IPR006738; motilin_ghrelin.
DR InterPro: IPR005441; Preproghrelin.
DR Pfam: PF04643; Motilin_assoc; 1.
DR Pfam: PF04644; Motilin_ghrelin; 1.
DR PRINTS: PR01624; GHRELIN.
DR ProDom: PD332162; Preproghrelin; 1.
KW Signal.
FT SIGNAL 1 23 Potential.
FT CHAIN 24 50 ghrelin.
SQ SEQUENCE 116 AA; 12977 MW; B78ECA3DBF0E568E CRC64;
Query Match 26.3%; Score 162; DB 2; Length 116;
Best Local Similarity 39.8%; Pred. No. 8.5e-09;
Matches 39; Conservative 15; Mismatches 34; Indels 10; Gaps 1;

QY 1 MPSPGTVCSSLLGLMGLDLAMAGSSFLSPHQRVQVRPPHKA
DB 1 MPAPRTIYSLLSLLMMDLAMAGSSFLSPHQRVQVRPPHKA
QY 57 -----CDLEQQRHWASVQSQTGSDSLTVSGRTWG 88
DB 61 GSQEGAEDELEIRFNAPFNIGIKLSGAQSLQHGQTIG 98
RESULT 10
GHRL_CANFA
ID GHRL_CANFA STANDARD; PRT; 117 AA.
AC Q9BEF8; Q9BEF7;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 05-JUL-2004 (Rel. 44, Last annotation update)
DE Ghrelin precursor (Growth hormone secretagogue) (Growth hormone
DE releasing peptide) (Motilin-related peptide).
GN Names=GhRL; Synonyms=MTLRP;
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RC TISSUE=Gastric fundus;
RA Tomasetto C., Wendling C., Rio M.-C., Poitras P.;
RL Identification of cDNA encoding MTLRP/ghrelin precursor from dog
RL fundus.;
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
CC -I- FUNCTION: Specific ligand for the growth hormone secretagogue
CC receptor type 1 (GHSR) inducing the release of growth hormone from
CC the pituitary. Has an appetite-stimulating effect. Induces
CC adiposity and stimulates gastric acid secretion. Involved in
CC growth regulation (By similarity).
CC -I- SUBCELLULAR LOCATION: Secreted.
CC -I- ALTERNATIVE PRODUCTS:
CC Name=1; Synonyms=Ghrel;in;
CC Event=Alternative splicing; Named isoforms=2;
CC IsoId=Q9BEF8-1; Sequence=Displayed;
CC Name=2; Synonyms=del-Gln14-ghrel;in;
CC IsoId=Q9BEF8-2; Sequence=VSP_003244;
CC -I- PTM: O-n-octanoylation is essential for activity (By similarity).
CC -I- SIMILARITY: Belongs to the motilin family.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL: AJ298295; CAC29155.1; -
CC EMBL: AJ298296; CAC29156.1; -
CC InterPro: IPR006737; motilin_assoc.
CC InterPro: IPR006738; motilin_ghrelin.
CC InterPro: IPR005441; Preproghrelin.
CC Pfam: PF04643; Motilin_assoc; 1.
CC Pfam: PF04644; Motilin_ghrelin; 1.
CC PRINTS: PR01624; GHRELIN.
CC ProDom: PD332162; Preproghrelin; 1.
CC Alternative splicing; Cleavage on pair of basic residues; Hormone;
KW Lipoprotein; Signal.
FT SIGNAL 1 23 By similarity.
FT PEPTIDE 24 51 Ghrelin (By similarity).
FT PROPEP 52 117 Removed in mature form (By similarity).
FT LIPID 26 26 O-octanoyl serine (By similarity).
FT VARSPLIC 37 37 Missing (in isoform 2).
FT /FTID=VSP_003244.
SQ SEQUENCE 117 AA; 13007 MW; 3E57FED9D1847CF7 CRC64;
Query Match 26.3%; Score 162; DB 1; Length 117;

RT	"Purification and characterization of rat des-Gln ¹⁴ -ghrelin, a second RT endogenous ligand for the growth hormone secretagogue receptor." ; RL J. Biol. Chem. 275:21995-22000(2000) .
SQ	SEQUENCE 117 AA; 13176 MW; 8857546FE51A7691 CRC64; /File=VSP_003248.

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Query Match      25.9%; Score 159.5; DB 1; Length 117;
Best Local Similarity 40.0%; Pred. No. 1.5e-08;
Matches 42; Conservative 7; Mismatches 33; Indels 23; Gaps 2;

QY 1 MPSPGTVCSLLLLGMLWLDLADAMAGSSFLSPHQVQVPPHKAHVVPALPLSNQLCDLE 60
DB 1 MVSSATICSLLLLSMLMDMAMAGSSFLSPHQVQVPPHKAHVVPALPLSNQLCDLE 54
QY 61 QQRH-----WASVFSQSTKDSGSDLTIVSGRTWG 88
DB 55 GWLHPEDRGOAEAELEIRFNAFPDVGIKLSGAQYQQHGRALG 99

RESULT 13
Q7TSD1 PRELIMINARY; PRT; 78 AA.
AC Q7TSD1
DT 01-OCT-2003 (TEMBLrel. 25, Created)
DT 01-OCT-2003 (TEMBLrel. 25, Last sequence update)
DT 01-MAR-2004 (TEMBLrel. 26, Last annotation update)
DE Ghrelin delta2.
GN Name=Ghrelin; (Mouse).
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RA Hisatomi H., Nagao K., Hirata H., Kawano K., Hibi N.;
RL Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB11891; BAC77409.1; -.
DR GO; GO:0005737; C:cytoplasm; IDA.
DR GO; GO:0005576; C:extracellular; IDA.
DR InterPro; IPR006737; motilin assoc.
DR InterPro; IPR005441; Preproghrelin.
DR Pfam; PF04643; Motilin assoc; 1.
DR ProDom; PD332162; Preproghrelin; 1.
SQ SEQUENCE 78 AA; 8615 MW; AD87CB53C9A22FFB CRC64;

Query Match      25.5%; Score 157; DB 2; Length 78;
Best Local Similarity 40.9%; Pred. No. 1.8e-08;
Matches 36; Conservative 5; Mismatches 19; Indels 28; Gaps 1;

QY 1 MPSPGTVCSLLLLGMLWLDLADAMAGSSFLSPHQVQVPPHKAHVVPALPLSNQLCDLE 60
DB 1 MLSSGTVCSLLLLSMLMDMAMAGSSFLSPHQVQVPPHKAHVVPALPLSNQLCDLE 40
QY 61 QQRHWASVFSQSTKDSGSDLTIVSGRTWG 88
DB 41 -----FDVGIKLSGAQYQQHGRALG 60

RESULT 14
GHR1_PIG
ID_GHR1_PIG STANDARD; PRT; 118 AA.
AC Q9GKY5; Q9BDG8; Q9CKY4;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 05-JUL-2004 (Rel. 44, Last annotation update)
DE Ghrelin precursor (Growth hormone secretagogue) (Growth hormone releasing peptide).
GN Name=GHR1;
OS Sus scrofa (pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RA Kojima M.;
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RC TISSUE=Stomach;

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RA Rouselle J., Lacroix D., Dubreuil P.;
RL Submitted (MAR-2001) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Specific ligand for the growth hormone secretagogue
CC receptor type 1 (GHSR) inducing the release of growth hormone from
CC the pituitary. Has an appetite-stimulating effect, induces
CC adiposity and stimulates gastric acid secretion. Involved in
CC growth regulation (By similarity).
CC -!- SUBCELLULAR LOCATION: Secreted (By similarity).
CC -!- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=1; Synonyms=Ghrelin;
CC IsoID=Q9GKY5-1; Sequence=Displayed;
CC Name=2; Synonyms=del-Gln14-ghrelin;
CC IsoID=Q9GKY5-2; Sequence=VSP 003247;
CC -!- PTM: O-n-octanoylation is essential for activity (By similarity).
CC -!- SIMILARITY: Belongs to the motilin family.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; AB035703; BAB19048.1; -.
CC EMBL; AB035704; BAB19049.1; -.
CC EMBL; AF308930; AAK1243.1; -.
CC EMBL; AY028942; AAK30002.1; -.
CC InterPro; IPR006737; motilin assoc.
CC InterPro; IPR005441; Preproghrelin.
CC Pfam; PF04643; Motilin_assoc; 1.
CC Pfam; PF04644; Motilin_ghrelin; 1.
CC PRINTS; PR01624; GHRELIN.
CC ProDom; PD332162; Preproghrelin; 1.
CC Alternative splicing; Cleavage on pair of basic residues; Hormone;
CC Lipoprotein; Signal.
CC SIGNAL 1 24 By similarity.
CC PEPTIDE 25 52 Ghrelin.
CC PROPEP 53 118 Removed in mature form (By similarity).
CC LIPID 27 27 O-octanoyl serine (By similarity).
CC VARSPIC 38 38 Missing (in isoform 2).
CC FTID=VSP 003247.
CC CONFLICT 17 17 L -> P (in Ref. 2; AAK30002).
CC CONFLICT 72 72 K -> E (in Ref. 2; AAK30002).
CC SEQUENCE 118 AA; 12785 MW; 856D3E1D6DAB1A76 CRC64;

Query Match      24.4%; Score 150.5; DB 1; Length 118;
Best Local Similarity 71.1%; Pred. No. 1.3e-07;
Matches 32; Conservative 4; Mismatches 8; Indels 1; Gaps 1;

QY 1 MPSPGTVCSLLLLGMLWLDLADAMAGSSFLSPHQVQVPPHKAHVVPALPLSNQLCDLE 44
DB 1 MPSTGTICSLLLSLLVLLMADLADAMAGSSFLSPHQVQVPPHKAHVVPALPLSNQLCDLE 45

RESULT 15
GHR1_BOVIN
ID_GHR1_BOVIN STANDARD; PRT; 116 AA.
AC Q9BDJ6; Q9GKY6;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 05-JUL-2004 (Rel. 44, Last annotation update)
DE Ghrelin precursor (Growth hormone secretagogue) (Growth hormone releasing peptide).
GN Name=GHR1;
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]

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